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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in this application:

1. (Currently Amended) An apparatus for waking an individual in a manner that promotes said individual's well being comprising:
  - at least one sensor operative to sense at least one parameter correlated to said individual's sleep level;
  - and
  - a controller capable of being set by said individual with a final wakeup time, said controller connected to receive sensed values of the at least one parameter from the sensor and configured to introduce a stimulus at a stimulus introduction time prior to the final wakeup time and, over a period between the stimulus introduction time and the final wakeup time, to control adjust an intensity of the stimulus based on feedback which comprises the sensed values of the at least one parameter and based on a difference between a current time and the final wakeup time, so as to bring said individual gradually out of sleep and to an awake state over a period of time between the stimulus introduction time and the final wakeup time.
2. (Previously Presented) An apparatus according to claim 1, wherein said at least one sensor comprises at least one of: an ultrasonic motion detector and an infrared motion detector.

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3. (Currently Amended) An apparatus according to claim 1, wherein said controller is configured to independently ~~control~~ adjust an intensity of a plurality of stimuli based on feedback which comprises the sensed values of the at least one parameter and based on a difference between a current time and the final wakeup time.
4. (Cancelled)
5. (Previously Presented) An apparatus according to claim 1, wherein the at least one parameter sensed by said sensor comprises at least one of: motion, brain waves, skin potential, skin resistance, muscle tone, eye movement, heart rate and breathing rate of said individual.
6. (Previously Presented) An apparatus according to claim 1 comprising a user interface having an input mechanism operative to receive input from said individual and an output mechanism operative to communicate information to said individual.
7. (Previously Presented) An apparatus according to claim 6, wherein said input mechanism comprises at least one of: a voice recognition system, a keypad, a touch screen interface, a remote control device and a plurality of buttons and switches.

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8. (Previously Presented) An apparatus according to claim 6, wherein said output mechanism comprises at least one of: a liquid crystal display, a light emitting diode display, an analog clock display, a plasma screen display, a cathode ray tube display, an audio output device and a plurality of switch and button indicators.
9. (Previously Presented) An apparatus according to claim 6, wherein said input mechanism is operative to receive input information from said individual, the input information comprising at least one of: a particular set of stimuli desired, a desired relative intensity of each stimulus selected, the stimulus introduction time, a personal sleep sensitivity level of said individual, a recent sleep history of said individual, an ambient stimulus level in said individual's sleeping environment and a seasonal amount of daylight.
10. (Previously Presented) An apparatus according to claim 6, wherein said output mechanism is operative to communicate information to said individual, the information comprising at least one of: a particular set of stimuli desired, a relative intensity of each stimulus selected, the stimulus introduction time, a personal sleep sensitivity level of said individual, a recent sleep history of said individual, an ambient stimulus level in said individual's sleeping environment and a seasonal amount of daylight.
11. (Previously Presented) An apparatus according to claim 1, wherein the stimulus comprises at least one of: a heat stimulus, a light stimulus, a sound stimulus, an olfactory stimulus and a tactile stimulus.

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12. (Currently Amended) An apparatus for waking an individual in a manner that promotes said individual's well being comprising:
- a detection system operative to sense at least one parameter correlated to said individual's sleep level;
  - and
  - a controller capable of being set by said individual with a final wakeup time, said controller connected to receive sensed values of the at least one parameter from the sensor and configured to introduce at least one stimulus at a stimulus introduction time prior to the final wakeup time and to ~~continuously control~~ adjust an intensity of the stimulus over a period of time between the stimulus introduction and the final wakeup time based on feedback which comprises sensed values of the at least one parameter ~~sensed during the period of time and based on a difference between a current time and the final wakeup time~~, so as to bring said individual gradually out of sleep and to an awake state over said period of time.
13. (Cancelled)

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14. (Currently Amended) A method of waking an individual in a manner that promotes said individual's well being, said method comprising:
- setting a desired final wakeup time;
  - sensing at least one parameter correlated to said individual's sleep level;
  - introducing at least one stimulus to said individual's sleeping environment at a stimulus introduction time prior to said final wakeup time;
  - controlling over a period between the stimulus introduction time and the final wakeup time, adjusting an intensity of the stimulus based on feedback which comprises sensed values of the at least one parameter and based on a difference between a current time and a final wakeup time, so as to bring said individual gradually out of sleep and to an awake state over a period of time between the stimulus introduction time and the final wakeup time.
15. (Previously Presented) A method according to claim 14, wherein sensing at least one parameter correlated to said individual's sleep level comprises detecting motion of the individual.
16. (Currently Amended) A method according to claim 14, comprising independently controlling a plurality of stimuli based on feedback which comprises sensed values of the at least one parameter and based on a difference between a current time and the final wakeup time.
17. (Cancelled)

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18. (Previously Presented) A method according to claim 14, wherein sensing at least one parameter correlated to said individual's sleep level comprises sensing at least one of: motion, brain waves, skin potential, skin resistance, muscle tone, eye movement, heart rate and breathing rate of said individual.
19. (Previously Presented) A method according to claim 14 comprising receiving input information from said individual, said input information comprising at least one of: a particular set of stimuli desired, a desired relative intensity of each stimulus selected, the stimulus introduction time, a personal sleep sensitivity level of said individual, a recent sleep history of said individual, an ambient stimulus level in said individual's sleeping environment and a seasonal amount of daylight.
20. (Previously Presented) A method according to claim 14 comprising communicating output information to said individual, said output information comprising at least one of: a particular set of stimuli desired, a relative intensity of each stimulus selected, the stimulus introduction time, a personal sleep sensitivity level of said individual, a recent sleep history of said individual, an ambient stimulus level in said individual's sleeping environment and a seasonal amount of daylight.

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21. (Previously Presented) A method according to claim 14, wherein introducing at least one stimulus to said individual's sleeping environment comprises introducing at least one of: a heat stimulus, a light stimulus, a sound stimulus, an olfactory stimulus and a tactile stimulus.
22. (Currently Amended) A method of waking an individual in a manner that promotes said individual's well being, said method comprising:  
    setting a desired final wakeup time;  
    measuring at least one parameter correlated to said individual's sleep level;  
    introducing at least one stimulus to said individual's sleeping environment at a stimulus introduction time prior to said final wakeup time; and  
    ~~continuously controlling~~ adjusting an intensity of the stimulus over a period of time between the stimulus introduction time and the final wakeup time based on feedback which comprises sensed values of the at least one parameter sensed during the period of time and based on a difference between a current time and the final wakeup time, so as to bring said individual gradually out of sleep and to an awake state over said period of time.
23. (Cancelled)
24. (Currently Amended) An apparatus according to claim 1 wherein the at least one parameter comprises motion of the individual and wherein the controller is configured to ~~control~~ adjust the intensity of the stimulus based on both amplitude and frequency of the motion of the individual.

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25. (Currently Amended) An apparatus according to claim 12 wherein the controller is configured to ~~control~~ adjust the intensity of the stimulus such that the individual reaches the ~~fully woken~~ awake state at about the final wakeup time.
26. (Currently Amended) An apparatus according to claim 12 wherein the at least one parameter comprises motion of the individual and wherein the controller is configured to ~~control~~ adjust the intensity of the stimulus based on both amplitude and frequency of the motion of the individual.
27. (Currently Amended) A method according to claim 14 wherein sensing at least one parameter correlated to said individual's sleep level comprises detecting motion of the individual and wherein ~~controlling~~ adjusting the intensity of the stimulus comprises ~~controlling~~ adjusting the intensity of the stimulus based on both amplitude and frequency of the motion of the individual.
28. (Currently Amended) A method according to claim 22 wherein ~~controlling~~ adjusting the intensity of the stimulus comprises ~~controlling~~ adjusting the intensity of the stimulus such that said individual reaches the ~~fully woken~~ awake state at about the final wakeup time.



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29. (Currently Amended) A method according to claim 22 wherein sensing at least one parameter correlated to said individual's sleep level comprises detecting motion of the individual and wherein ~~controlling~~ adjusting the intensity of the stimulus comprises ~~controlling~~ adjusting the intensity of the stimulus based on both amplitude and frequency of the motion of the individual.
30. (New) An apparatus according to claim 1 wherein the controller is configured to periodically adjust the intensity of the stimulus throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
31. (New) An apparatus according to claim 1 wherein the controller is configured to periodically adjust the intensity of the stimulus at least three times in the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
32. (New) An apparatus according to claim 1 wherein the controller is configured to control a rate of change of intensity of the stimulus over time throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.

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33. (New) An apparatus according to claim 32 wherein the controller is configured to control the rate of change of intensity of the stimulus over time to be negative if the sensed values of the at least one parameter indicate that the user may reach the awake state prior to the final wakeup time.
34. (New) An apparatus according to claim 12 wherein the controller is configured to periodically adjust the intensity of the stimulus throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
35. (New) An apparatus according to claim 12 wherein the controller is configured to periodically adjust the intensity of the stimulus at least three times in the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
36. (New) An apparatus according to claim 12 wherein the controller is configured to control a rate of change of intensity of the stimulus over time throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.

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37. (New) An apparatus according to claim 36 wherein the controller is configured to control the rate of change of intensity of the stimulus over time to be negative if the sensed values of the at least one parameter indicate that the user may reach the awake state prior to the final wakeup time.
38. (New) A method according to claim 14 wherein adjusting the intensity of the stimulus comprises periodically adjusting the intensity of the stimulus throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
39. (New) A method according to claim 14 wherein adjusting the intensity of the stimulus comprises periodically adjusting the intensity of the stimulus at least three times in the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
40. (New) A method according to claim 14 comprising controlling a rate of change of intensity of the stimulus over time throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.

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41. (New) A method according to claim 40 comprising controlling the rate of change of intensity of the stimulus over time to be negative if the sensed values of the at least one parameter indicate that the user may reach the awake state prior to the final wakeup time.
42. (New) A method according to claim 22 wherein adjusting the intensity of the stimulus comprises periodically adjusting the intensity of the stimulus throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
43. (New) A method according to claim 22 wherein adjusting the intensity of the stimulus comprises periodically adjusting the intensity of the stimulus at least three times in the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.
44. (New) A method according to claim 22 comprising controlling a rate of change of intensity of the stimulus over time throughout the period between the stimulus introduction time and the final wakeup time based on the feedback and based on the difference between the current time and the final wakeup time.

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45. (New) A method according to claim 44 comprising controlling the rate of change of intensity of the stimulus over time to be negative if the sensed values of the at least one parameter indicate that the user may reach the awake state prior to the final wakeup time.

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